259 316 325 651 During the last thirty or forty years, it is true, the economic situation of the Ukraine has changed considerably; three large industries have developed in the country: the sugar industry, the mining and the metal industries. And one is tempted to say that this development was due to Russian protection. But is this quite correct? Undoubtedly the protection had some influence, but not as much as one might suppose. In the first place, one must not forget that in the Ukraine there are natural conditions much more favorable to these industries than in any other part of the Russian Empire. Certainly the sugar, metal and mining interests are among those which depend on the location of their raw materials and can never start in a place where these are lacking. Besides, these industries are infinitely more fostered by transportational advantages than by custom duties. The duties which were imposed on foreign coal did not prevent the importation of English coal into the Baltic provinces nor into Petrograd. On the other hand, even if all custom duties on foreign coal had been suppressed, it would never have penetrated into central Russia and there replaced the fuel of Donetz. As to the sugar, the situation in the Ukraine was perhaps even more favorable. As to metallurgy, it no doubt profited by the protective Russian tax. But there again the role of this tax was not very great. In fact, the products of Ukrainian metallurgy were heavy (rails, beams, tires, wheels, pipes, iron bars, etc.), and their manufacture was only slightly stimulated by the tax because of the great distances over which they had, in any case, to be carried. Protective tariff is much more necessary to those industries which supply finished products of light weight, but of these the Ukraine furnished very few. The textile industry of Moscow and of Poland profited much more by protection, as did many other branches of the industrial activities of central Russia.

Effect of Russian Imperial Methods in Ukraine

369 241 Therefore, by this system, the Ukraine had more loss than profit. She was still a market for Russian and Polish industrial products, for which she paid high prices. But

257 The central agrarian section of Ukraine, on both banks of
311 the Dnipro, includes industries producing foodstuffs and luxuries, above all the sugar industry. There are also plants here for manufacturing leather and medium-heavy machinery. Factories are much smaller than in the coal and ore area and the many small power-stations run on brown coal and peat.

381 The Carpathian area is the home above all of the chemical
311 industry and the capacity of the power-stations, usually run by gas and expensive imported coal, seldom by the abundant water power available, exceeds 10 000 KW only in Lviv — Uzhhorod, being used principally for lighting the towns. Industrialisation is densest on the oil-fields of Drohobych.

371 In the foreland of the Caucasus electric plants are run by
311 petroleum only and water power is not exploited at all. The small factories (petroleum, tobacco, leather and machinery of medium weight) are too scattered to form an industrial area in the strict sense.

392 The large towns form industrial centers that are not dependent
311 on the presence of raw materials. Kharkiv has heavy engineering plants for transportation requirements, factories for agricultural machinery, electro-technical factories, and workshops for precision instruments and machinery. These are large enterprises, built recently and attached to big power-stations (Chuhujiv 25 000 KW), so that Kharkiv may be classed with the industrial area in the vicinity.

39 Kyiv builds ships and produces chemical and electro-technical
311 equipment and has chemical and textile plants as well as sugar and foodstuffs factories. In Odessa the same factories are represented and there are also canneries, leather works and plants for producing cinema installations. In addition, there are workshops that specialise in the structure of motor-cars and planes. In the other towns in the country enterprises for this or that industry have been established.

385 also manufactured in Konstantynivka (200 000 t), in the Dnipro Combine (140 000 t) and in Kerch (80 000 t), also in Znesinnia near Lviv (capacity of 80 000 t). The total figure for 1932 was 70 000 t = 47 % of total Russian production.

Potash salts were manufactured into artificial manures in Kalush and Holyn while Slovjanske supplied among other products soda for the entire USSR (in 1932 = 375 000 t). By-products from coke and benzol were manufactured in the Donets Basin, the Dnipro Combine (in 1932 = 264 000 pitch, 250 000 ammonia, 132 000 tar) and in Kryvyj Rih, and more recently also synthetic ammonia and aniline dyes. Plants for the dry distillation of wood were erected in Kyiv and Carpatho-Ukraine (Byshkiv, Perechyn, Svaljava).

9. Agricultural Industry

● 257 The sugar industry is one of the oldest and best developed in the country and comes third after iron and coal in respect of the value of its products. The first sugar factory was built as early as 1825; in 1859/60 there were 250 factories, and before World War I, 197 (compared with 39 in Russia) with an annual production of 1.2 million t (compared with 290 000 t in Russia). Ukraine comes after Germany (1.9 million t) as the second sugar beet producing country in the world.

After a decline caused by the First World War, the pre-war figure was reached only at the beginning of the first Five Year Plan. In 1933/34 170 sugar factories were operating, and they produced 0.8 million t = 8.5 % of world sugar production (USA 1.6, Germany 1.4, France 0.9 million t). Most of the plants are in the Kyiv district and Podolia; 3 are in Galicia. The contribution of Ukraine to the entire production of USSR sank slowly but steadily as the sugar industry was subsidised by the state in the Black Earth district of Central Russia, Siberia and Central Asia. Progress was made in the Kuban area only, where there was not a single sugar factory up to 1914. In 1933/34 20 000 t of sugar were produced there.

256 The many small mills in Ukraine were replaced by big plants after World War I. In 1927/28 there were only 610 mills. Their

339 To finish with heavy industries, let us still mention the production of building materials—600,000 tons of cement (in the region of the Sea of Azov) and 1 milliard of bricks are annually manufactured in the Ukraine.

258 As for light industry, it is that of food production which occupies the first place.

257 The sugar industry of the whole of Russia is to be found almost entirely in the Ukraine. 12,000,000 quintals of crystallized sugar and 4,000,000 quintals of refined sugar can be produced here annually.

256 The milling industry also occupies an important place. Very important mills, many of which are supplied with highly perfected means of sifting and straining, specialized in the manufacture of fine flours for export before the last war. This industry is concentrated in the ports or in the towns near these or near river ports and in the surroundings of important railway junctions of the southern region. This industry represents 35 per cent of the whole milling industry of the Union and produces, despite the fact that it is not working at full pressure, 2,500,000 tons of wheat flour per annum.

249 The oil mills of the Ukraine produce 40,000 tons of sunflower oil, 3000 tons of linseed oil, and 3000 tons of mustard oil.

274 70 per cent of the alcohol distilleries of the Soviet Union are also in the Ukraine, manufacturing all types of alcohol: from corn, for drinks such as vodka and other liqueurs, and from potatoes, for the dye industry, for pharmaceutical products, and for perfumery.

277 The very important tobacco industry is distributed throughout the great centres of the territory.

255 As for the production of tinned foods, 78 per cent of the production of the Union originates from the Ukraine. Important quantities of vegetables (especially of tomatoes) and of fruit are tinned and exported from the territory.

9: Prothero G-4 (no date) 1920 RD1 Ukraine RD1

ing both from abroad and from other parts of Russia. The two principal exceptions to this rule are manufactured food-stuffs, and heavy iron and steel products.

Sixty-eight per cent. of the manufactured products of the country consist of food-stuffs. The industries contributing to this output are various, including flour-milling, sugar-refining, and those dependent wholly or partly upon sugar, such as confectionery, fruit-preserving, distilling from molasses, brewing, and wine-making. Most of the undertakings concerned have only a small capital, and are situated near the source of their raw material. In the neighbourhood of Kiev, however, sugar-refining and its dependent industries are carried on in large works, many of which are capitalized from abroad.

The close conjunction of the Donets coalfield and the iron and manganese deposits has enabled the Ukraine to be almost entirely self-supporting in iron and steel manufactures of the first categories, and to supply the wants of the remainder of Russia as well. Pig-iron, bar-iron, roof-iron, steel rails, axles, tubes, and assorted merchant iron are all made in the iron-works which have been established in increasing numbers on the coal and iron fields. These works are seldom in large centres of population, but as a rule in small towns and villages, some of which owe their existence to the need of housing for the labour employed.

The output of raw iron and steel in the first stage of manufacture under the headings of Bessemer and Thomas bars, Martin-process bars, cast-iron and steel billets, and cast-iron tubes, was in 1906 1,300,000 tons, and in 1910 1,900,000 tons. The output of iron and steel in the second stage of manufacture, under the headings of T and H beams, rails, sheet-iron, rolled wire, roof-iron, trusses, springs, assorted merchant iron and axles, was in 1906 1,010,000 tons, and in 1910 1,602,258 tons. In the former year the output in both stages was equal to about 45 per cent., and in the latter year to about 55 per cent., of the total Russian output.

433 became /165/ "Red Progress, Dnepropetrovsk", and so on. The giant tractor factory in Khar'kov was newly erected, an accomplishment which is proudly shown to every foreign visitors. Important, however, is not only the number of tractors that leave the factory, but also their serviceability and durability. The significance of the industrial plants which have remained from the pre-war period is also evident from the invested capital, according to which, just as before, the iron industry ranks first, coal second and the sugar industry third. In these three industries half of the entire capital invested in Ukrainian industry is combined. Only after that come machine construction and the chemical works which to a certain extent have arisen only in most recent times. (106)

106. Kubiyovich: Commentary to the Atlas, page XXXIII.

• 257 The sugar industry forms only a part of the food and luxury industry which was a very important branch even before the war. Its center is in the beet-growing region between Podolia, Kiyev and Khar'kov. In 1913 200 Ukrainian sugar factories produced 1.2 million tons of sugar, in 1933 170 factories produced 0.8 million tons. (107)

107. Deminskiy, The Economy of the Ukraine, page 140.

258 Besides that there is, also dating back to the pre-
274 war period, a considerable mill and oil industry, the latter in the Kuban region, as well as distilleries.

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369 The increase of urban population is a natural concomitant of industrialization. The Ukraine has

Food Industries

The damage suffered by the Soviet food industry during the German occupation - not counting the destruction of livestock and crops - has been estimated at 17,000 million roubles. Restoration work was begun while the war was still on, and by May 1947, 3,200 food factories had been rebuilt. A fairly large proportion of these restored factories must have been in the Ukraine, where, according to the Soviet Monitor[1] 1,600 out of 1,822 pre-war food factories had been restored by November 6, 1946. The rehabilitated factories had exceeded their 11 months' food output programme by production valued at 12 million roubles (146 million roubles over the corresponding period of 1945).

Sugar

Before the war the output of sugar in the Ukraine was as follows.

TABLE XX

Pre-War Sugar Production: Ukraine and U.S.S.R.
(metric tons)

Year	Soviet Union total	Ukrainian S.S.R.
1928	1,221,200	1,086,400
1932	826,800	559,700
1937	2,377,500	1,789,800

Sources: Socialist Construction, Moscow, 1939; and Statistical Yearbooks of the League of Nations, Geneva, 1936 and 1939.

The Five-Year Plan establishes that in 1946-50 sugar refineries in the Ukraine shall be restored or built capable of handling upwards of 67,000 tons of sugar beet per day. By 1950, according to plan, the output of granulated sugar in the Ukraine will reach 1,637,000 tons, (in the entire Soviet Union, 2.4 million tons).

Forestry

In January 1935 the forest area of the Ukrainian S.S.R. was 3,845,000 hectares - about 0.5 per cent. of the forest area of the entire U.S.S.R.[2] The number of sawing frames in the Republic was 703 out of the Soviet Union total of 6,500 (total capacity, 18.4 million cubic metres).[3] Considering the relatively small forest

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1 November 11, 1946

2 Socialist Construction, Moscow, 1936.

3 Planned Economy, Moscow, 1940, II.